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AGRICULTURAL MEMORANDUM No 475

DRAINAGE AND SPRING SOWING PERIODS - 7 DAY SCHEDULES

L P Smith

An attempt was made, using 20-year (1949-1968) records of daily rainfall from 12 stations in the east and north east (from the East Riding to Essex), to estimate the probable end of spring sowing periods under four classes of drainage.

The model used made the following assumptions:

1. Spring cultivations would not start before late February, or later if ground was snow covered. (eg in 1963)

2. Days with no appreciable rain would be required, ie a dry spell.

3. The previous wet spell would have provided excess rain which had to be drained away before a dry spell could be utilized. The intensity of the wet spell was characterized by the amount of rain falling less the daily evaporation, estimated at:- 0.02 in/day in February, 0.05 in/day in March, 0.08 in/day in April and 0.10 in/day in May. The resulting figure was termed the "excess rain".

4. Four standards of drainage were stipulated, leading to "delay days" which would be unavailable for work on the soil in the succeeding dry spell, in accordance with the following pattern:-

	Drainage				
Excess rain	Good A	Moderate B	Poor C	Bad D	
nil	1	1	2	2	
under 1 inch	1	2	3	4	
1-2 inches	2	3	4	5	
over 2 inches	2	4	5	6	days delay

5. Starting with the last dry spell in February which ran into March, and ending in mid-May, counting the dry-days less the appropriate delay days, the date was found when 7 usable days had been available. No account was taken of half-days or of Sundays.

6. A day with little rainfall was ignored in the middle or at the end of a dry spell; it was counted as wet if it occurred at the end of a wet spell. Traces of rainfall were ignored.

The individual results and means are given in the tables. Subsequent memoranda will deal with 10 day and 14 day schedules.

Any comments or suggestions on this paper should be referred to the author.

Meteorological Office
Bracknell

August 1972

	1949				1950				1951			
	A	B	C	D	A	B	C	D	A	B	C	D
NORTH-EAST												
Holme	Mar 29	Mar 30	Mar 31	Mar 31	Mar 8	Mar 10	Mar 12	Mar 28	Apr 17	Apr 21	Apr 24	Apr 24
Nottingham	Mar 19	Mar 24	Mar 28	Mar 31	Mar 7	Mar 9	Mar 11	Mar 13	Apr 19	Apr 22	Apr 25	Apr 26
Cranwell	Mar 10	Mar 18	Mar 26	Mar 27	Mar 7	Mar 9	Mar 11	Mar 13	Apr 20	Apr 24	Apr 25	Apr 26
Melton Mowbray	Mar 9	Mar 11	Mar 19	Mar 27	Mar 7	Mar 9	Mar 11	Mar 13	Apr 19	Apr 23	Apr 25	May 14
Sandringham	Mar 24	Mar 26	Mar 28	Mar 29	Mar 9	Mar 11	Mar 13	Apr 7	Apr 18	Apr 20	Apr 22	Apr 24
Sprowston	Mar 24	Mar 26	Mar 28	Mar 30	Mar 6	Mar 7	Mar 8	Mar 9	Mar 7	Apr 20	Apr 22	Apr 24
MEAN	Mar 19	Mar 22	Mar 27	Mar 29	Mar 7	Mar 9	Mar 11	Mar 19	Apr 12	Apr 22	Apr 24	Apr 28
EAST												
Wellingborough	Mar 7	Mar 9	Mar 11	Mar 25	Mar 4	Mar 5	Mar 6	Mar 7	Apr 17	Apr 21	Apr 23	Apr 24
Bedford	Mar 7	Mar 9	Mar 11	Mar 19	Mar 4	Mar 5	Mar 6	Mar 7	Apr 18	Apr 22	Apr 24	Apr 25
Cambridge	Mar 8	Mar 10	Mar 12	Mar 25	Mar 6	Mar 7	Mar 8	Mar 9	Mar 28	Apr 18	Apr 21	Apr 24
Aylesbury	Mar 3	Mar 9	Mar 11	Mar 26	Mar 4	Mar 5	Mar 6	Mar 7	Apr 20	Apr 23	Apr 24	Apr 25
Watford	Mar 16	Mar 19	Mar 25	Mar 28	Mar 4	Mar 5	Mar 6	Mar 7	Apr 19	Apr 23	Apr 25	Apr 26
Writtle	Mar 3	Mar 9	Mar 11	Mar 13	Mar 6	Mar 7	Mar 8	Mar 9	Mar 7	Apr 20	Apr 22	Apr 24
MEAN	Mar 7	Mar 11	Mar 14	Mar 23	Mar 5	Mar 6	Mar 7	Mar 8	Apr 13	Apr 21	Apr 23	Apr 25

	1952				1953				1954			
	A	B	C	D	A	B	C	D	A	B	C	D
NORTH-EAST												
Holme	Mar 31	Apr 1	Apr 4	Apr 5	Mar 3	Mar 4	Mar 5	Mar 6	Mar 13	Mar 16	Apr 7	Apr 8
Nottingham	Feb 25	Feb 26	Feb 27	Feb 28	Feb 27	Feb 28	Mar 1	Mar 2	Mar 17	Mar 18	Mar 29	Apr 7
Cranwell	Mar 18	Mar 20	Apr 16	Apr 19	Feb 27	Feb 28	Mar 1	Mar 2	Mar 17	Mar 18	Apr 9	Apr 11
Melton Mowbray	Feb 26	Feb 27	Feb 28	Feb 29	Feb 27	Feb 28	Mar 1	Mar 2	Mar 17	Mar 28	Apr 10	Apr 12
Sandringham	Mar 15	Mar 16	Mar 18	Apr 15	Feb 27	Feb 28	Mar 1	Mar 2	Mar 17	Mar 18	Mar 19	Apr 11
Sprowston	Mar 15	Mar 17	Apr 14	Apr 17	Feb 28	Mar 1	Mar 2	Mar 3	Mar 15	Mar 16	Mar 17	Mar 18
MEAN	Mar 12	Mar 13	Mar 24	Mar 30	Feb 28	Mar 1	Mar 2	Mar 3	Mar 16	Mar 19	Mar 31	Apr 6
EAST												
Wellingborough	Feb 26	Feb 27	Feb 28	Feb 29	Feb 27	Feb 28	Mar 1	Mar 2	Mar 15	Mar 24	Apr 8	Apr 10
Bedford	Feb 26	Feb 27	Feb 28	Feb 29	Feb 27	Feb 28	Mar 1	Mar 2	Mar 15	Mar 16	Mar 17	Mar 18
Cambridge	Feb 26	Feb 27	Feb 28	Feb 29	Feb 27	Feb 28	Mar 1	Mar 2	Mar 14	Mar 15	Mar 16	Mar 17
Aylesbury	Feb 25	Feb 26	Feb 27	Feb 28	Mar 1	Mar 2	Mar 3	Mar 4	Mar 17	Mar 18	Apr 7	Apr 9
Watford	Feb 26	Feb 27	Feb 28	Feb 29	Feb 28	Mar 1	Mar 2	Mar 3	Mar 17	Mar 18	Apr 10	Apr 12
Writtle	Feb 27	Feb 28	Feb 29	Mar 1	Feb 27	Feb 28	Mar 1	Mar 2	Mar 18	Apr 9	Apr 11	Apr 13
MEAN	Feb 26	Feb 27	Feb 28	Feb 29	Feb 27	Feb 28	Mar 2	Mar 3	Mar 16	Mar 22	Apr 1	Apr 3

	1955				1956				1957			
	A	B	C	D	A	B	C	D	A	B	C	D
NORTH-EAST												
Holme	Mar 3	Mar 4	Mar 13	Mar 15	Mar 18	Mar 19	Mar 31	Apr 18	Mar 4	Mar 13	Mar 15	Mar 17
Nottingham	Mar 3	Mar 4	Mar 12	Mar 14	Mar 11	Mar 12	Mar 13	Mar 14	Mar 12	Mar 23	Apr 2	Apr 5
Cranwell	Mar 3	Mar 4	Mar 14	Mar 16	Mar 13	Mar 25	Apr 17	Apr 21	Mar 3	Mar 13	Mar 30	Apr 2
Melton Mowbray	Mar 4	Mar 13	Mar 15	Mar 17	Mar 3	Mar 8	Mar 10	Mar 12	Mar 12	Mar 14	Mar 25	Apr 2
Sandringham	Mar 11	Mar 13	Mar 15	Apr 15	Mar 12	Mar 14	Mar 16	Mar 17	Mar 10	Mar 12	Apr 1	Apr 4
Sprowston	Mar 12	Mar 14	Mar 16	Apr 14	Mar 14	Mar 15	Mar 16	Mar 17	Mar 5	Mar 13	Apr 3	Apr 5
MEAN	Mar 6	Mar 9	Mar 14	Mar 25	Mar 12	Mar 16	Mar 22	Mar 27	Mar 8	Mar 15	Mar 25	Apr 1
EAST												
Wellingborough	Mar 4	Mar 12	Mar 14	Mar 15	Mar 2	Mar 6	Mar 8	Mar 10	Mar 12	Mar 23	Mar 31	Apr 3
Bedford	Mar 4	Mar 10	Mar 12	Mar 14	Mar 5	Mar 7	Mar 9	Mar 11	Mar 12	Mar 21	Mar 24	Apr 1
Cambridge	Mar 4	Mar 11	Mar 13	Mar 15	Mar 8	Mar 10	Mar 12	Mar 14	Mar 4	Mar 13	Apr 1	Apr 3
Aylesbury	Mar 4	Mar 5	Mar 11	Mar 12	Mar 5	Mar 7	Mar 9	Mar 11	Mar 4	Mar 13	Mar 23	Apr 2
Watford	Mar 4	Mar 11	Mar 13	Mar 14	Mar 11	Mar 12	Mar 13	Mar 14	Mar 11	Mar 13	Mar 15	Apr 2
Writtle	Mar 14	Mar 15	Mar 17	Mar 18	Feb 28	Feb 29	Mar 1	Mar 11	Mar 12	Mar 13	Mar 15	Mar 16
MEAN	Mar 6	Mar 11	Mar 14	Mar 15	Mar 5	Mar 7	Mar 9	Mar 12	Mar 9	Mar 16	Mar 23	Mar 30

	1958				1959				1960			
	A	B	C	D	A	B	C	D	A	B	C	D
NORTH-EAST												
Holme	Mar 16	Mar 19	Apr 9	Apr 12	Mar 1	Mar 8	Mar 10	Mar 19	Mar 8	Mar 19	Mar 22	Mar 25
Nottingham	Mar 14	Mar 17	Mar 19	Mar 21	Feb 22	Feb 23	Feb 24	Feb 25	Mar 8	Mar 18	Mar 21	Mar 23
Cranwell	Mar 17	Mar 18	Mar 20	Mar 21	Mar 1	Mar 2	Mar 15	Mar 17	Mar 18	Mar 20	Mar 22	Mar 24
Melton Mowbray	Mar 16	Mar 19	Mar 22	Mar 23	Feb 20	Feb 21	Feb 22	Feb 23	Mar 8	Mar 17	Mar 20	Mar 22
Sandringham	Mar 17	Mar 23	Apr 11	Apr 13	Mar 9	Mar 11	Mar 13	Mar 20	Mar 7	Mar 15	Mar 18	Mar 21
Sprowston	Mar 17	Mar 31	Apr 15	Apr 22	Mar 9	Mar 11	Mar 13	Mar 19	Mar 16	Mar 18	Mar 21	Mar 22
MEAN	Mar 16	Mar 21	Mar 31	Apr 3	Mar 1	Mar 3	Mar 7	Mar 11	Mar 11	Mar 18	Mar 21	Mar 23
EAST												
Wellingborough	Mar 16	Mar 19	Mar 22	Mar 23	Mar 1	Mar 11	Mar 13	Mar 15	Mar 18	Mar 20	Mar 22	Mar 23
Bedford	Mar 18	Mar 19	Mar 21	Mar 21	Mar 12	Mar 14	Mar 16	Mar 18	Mar 8	Mar 18	Mar 21	Mar 23
Cambridge	Mar 15	Mar 18	Mar 20	Mar 22	Mar 1	Mar 14	Mar 16	Mar 18	Mar 7	Mar 14	Mar 17	Mar 20
Aylesbury	Mar 12	Mar 13	Mar 15	Mar 16	Feb 22	Feb 23	Feb 24	Feb 25	Mar 16	Mar 18	Mar 21	Mar 22
Watford	Mar 17	Mar 18	Mar 20	Mar 21	Feb 20	Feb 21	Feb 22	Feb 23	Mar 18	Mar 19	Mar 21	Mar 22
Writtle	Mar 15	Mar 17	Mar 19	Mar 21	Mar 1	Mar 1	Mar 19	Mar 20	Mar 4	Mar 5	Mar 6	Mar 7
MEAN	Mar 15	Mar 17	Mar 19	Mar 21	Mar 1	Mar 5	Mar 8	Mar 10	Mar 12	Mar 16	Mar 18	Mar 20

	1961				1962				1963			
	A	B	C	D	A	B	C	D	A	B	C	D
NORTH-EAST												
Holme	Mar 6	Mar 7	Mar 8	Mar 9	Mar 13	Mar 15	Mar 17	Mar 19	Mar 21	Mar 22	Mar 24	Mar 25
Nottingham	Mar 9	Mar 10	Mar 11	Mar 12	Mar 12	Mar 15	Mar 18	Mar 21	Mar 20	Mar 22	Apr 25	Apr 28
Cranwell	Mar 8	Mar 9	Mar 10	Mar 11	Mar 15	Mar 16	Mar 18	Apr 14	Mar 20	Mar 22	Mar 24	Mar 26
Melton Mowbray	Mar 8	Mar 9	Mar 10	Mar 11	Mar 14	Mar 15	Mar 17	Mar 18	Apr 8	Apr 26	Apr 29	May 7
Sandringham	Mar 10	Mar 11	Mar 12	Mar 13	Mar 19	Mar 20	Apr 13	Apr 13	Mar 8	Mar 21	Mar 23	Apr 26
Sprowston	Mar 8	Mar 9	Mar 10	Mar 11	Apr 12	Apr 13	Apr 27	Apr 28	Mar 8	Apr 8	Apr 25	May 6
MEAN	Mar 8	Mar 9	Mar 10	Mar 11	Mar 19	Mar 21	Mar 29	Apr 3	Mar 19	Mar 26	Apr 4	Apr 19
EAST												
Wellingborough	Mar 9	Mar 10	Mar 11	Mar 12	Feb 24	Feb 25	Feb 26	Feb 27	Apr 8	Apr 26	Apr 29	May 19
Bedford	Mar 9	Mar 10	Mar 11	Mar 12	Feb 23	Feb 24	Feb 25	Feb 26	Mar 22	Apr 8	Apr 26	May 6
Cambridge	Mar 10	Mar 11	Mar 12	Mar 13	Mar 12	Mar 15	Mar 18	Mar 20	Mar 21	Mar 23	Apr 22	Apr 25
Aylesbury	Mar 9	Mar 10	Mar 11	Mar 12	Feb 23	Feb 24	Feb 25	Feb 26	Apr 25	Apr 28	May 18	-
Watford	Mar 9	Mar 10	Mar 11	Mar 12	Mar 13	Mar 14	Mar 16	Mar 17	Mar 8	Mar 22	Apr 25	Apr 27
Writtle	Mar 9	Mar 10	Mar 11	Mar 12	Mar 6	Mar 7	Mar 14	Mar 16	Mar 22	Mar 23	Apr 25	Apr 27
MEAN	Mar 9	Mar 10	Mar 11	Mar 12	Mar 3	Mar 4	Mar 7	Mar 8	Mar 23	Apr 6	Apr 29	May 7

	1964				1965				1966			
	A	B	C	D	A	B	C	D	A	B	C	D
NORTH-EAST												
Holme	Mar 3	Mar 4	Mar 5	Mar 6	Mar 9	Mar 10	Mar 11	Mar 12	Mar 14	Mar 15	Mar 17	Mar 18
Nottingham	Mar 8	Mar 9	Mar 10	Mar 11	Mar 12	Mar 14	Mar 30	Apr 1	Mar 14	Mar 15	Mar 17	Mar 18
Cranwell	Apr 6	Apr 9	May 14	May 15	Mar 13	Mar 13	Apr 1	Apr 2	Mar 15	Mar 16	Mar 18	Mar 18
Melton Mowbray	Mar 26	Apr 6	Apr 10	Apr 11	Mar 9	Mar 10	Mar 11	Mar 12	Mar 17	Mar 18	Mar 20	Mar 20
Sandringham	Apr 1	Apr 9	May 15	May 17	Mar 28	Mar 30	Apr 1	Apr 2	Mar 18	Mar 20	Mar 21	Mar 22
Sprowston	Mar 4	Mar 5	Mar 10	Apr 8	Mar 12	Mar 29	Apr 1	Apr 3	Mar 16	Mar 16	Mar 18	Mar 18
MEAN	Mar 19	Mar 22	Apr 3	Apr 6	Mar 14	Mar 18	Mar 25	Mar 26	Mar 16	Mar 17	Mar 18	Mar 19
EAST												
Wellingborough	Mar 11	Mar 27	Apr 6	Apr 7	Mar 12	Mar 12	Mar 13	Mar 13	Mar 7	Mar 13	Mar 15	Mar 16
Bedford	Mar 8	Mar 9	Mar 10	Mar 11	Mar 8	Mar 9	Mar 10	Mar 11	Mar 6	Mar 7	Mar 14	Mar 15
Cambridge	Mar 8	Mar 9	Mar 10	Mar 11	Mar 6	Mar 7	Mar 9	Mar 10	Mar 15	Mar 15	Mar 17	Mar 17
Aylesbury	Mar 8	Mar 9	Mar 10	Mar 11	Mar 2	Mar 7	Mar 9	Mar 11	Mar 6	Mar 7	Mar 8	Mar 9
Watford	Mar 8	Mar 9	Mar 10	Mar 11	Mar 5	Mar 7	Mar 9	Mar 11	Mar 15	Mar 16	Mar 18	Mar 19
Writtle	Mar 8	Mar 9	Mar 10	Mar 11	Mar 7	Mar 9	Mar 11	Mar 13	Mar 16	Mar 17	Mar 19	Mar 20
MEAN	Mar 8	Mar 12	Mar 14	Mar 16	Mar 7	Mar 8	Mar 10	Mar 12	Mar 11	Mar 13	Mar 15	Mar 16

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	1967				1968				1949-68 Average			
	A	B	C	D	A	B	C	D	A	B	C	D
NORTH-EAST												
Holme	Mar 16	Mar 18	Mar 20	Mar 22	Mar 1	Mar 2	Mar 3	Mar 4	Mar 13	Mar 16	Mar 21	Mar 24
Nottingham	Mar 13	Mar 15	Mar 17	Mar 19	Feb 23	Feb 24	Feb 25	Feb 26	Mar 11	Mar 13	Mar 19	Mar 21
Cranwell	Mar 13	Mar 15	Mar 17	Mar 19	Feb 24	Feb 25	Feb 26	Feb 27	Mar 14	Mar 16	Mar 26	Mar 29
Melton Mowbray	Mar 16	Mar 18	Mar 20	Mar 22	Mar 1	Mar 2	Mar 3	Mar 4	Mar 12	Mar 16	Mar 20	Mar 23
Sandringham	Mar 11	Mar 13	Mar 15	Mar 17	Mar 4	Mar 9	Mar 29	Mar 31	Mar 15	Mar 19	Mar 26	Apr 3
Sprowston	Mar 7	Mar 14	Mar 16	Mar 18	Feb 23	Feb 24	Feb 25	Feb 26	Mar 12	Mar 19	Mar 26	Mar 31
MEAN	Mar 13	Mar 15	Mar 17	Mar 19	Feb 27	Feb 29	Mar 4	Mar 5	Mar 13	Mar 16	Mar 22	Mar 26
EAST												
Wellingborough	Mar 20	Mar 23	Apr 5	Apr 29	Mar 1	Mar 2	Mar 3	Mar 4	Mar 11	Mar 16	Mar 20	Mar 24
Bedford	Mar 15	Mar 18	Mar 21	Mar 23	Feb 25	Feb 26	Feb 27	Feb 28	Mar 9	Mar 13	Mar 16	Mar 18
Cambridge	Mar 17	Mar 19	Mar 21	Mar 23	Feb 22	Feb 23	Feb 24	Feb 25	Mar 9	Mar 13	Mar 17	Mar 19
Aylesbury	Mar 19	Mar 21	Mar 23	Mar 31	Feb 21	Feb 22	Feb 23	Feb 24	Mar 10	Mar 12	Mar 16	Mar 18
Watford	Mar 18	Mar 20	Mar 22	Mar 24	Feb 22	Feb 23	Feb 24	Feb 25	Mar 10	Mar 13	Mar 17	Mar 19
Writtle	Mar 16	Mar 18	Mar 20	Mar 22	Feb 29	Mar 1	Mar 2	Mar 3	Mar 8	Mar 12	Mar 17	Mar 19
MEAN	Mar 17	Mar 20	Mar 24	Mar 30	Feb 25	Feb 26	Feb 27	Feb 28	Mar 10	Mar 13	Mar 17	Mar 20